IMPERFECT SYMMETRY.

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FEW things in nature appear more constant and exact than that symmetry of organic form which is shown in the likeness of the several members of each two or more corresponding and similarly useful parts. The example nearest to each of us is the symmetry of the two side-halves of his own body; it usually appears perfect. And, so far as it can be tested by chemical analysis or by the much more delicate indication of symmetrical diseases, there is a symmetry of composition as well as of shape and visible structure. In substance as in form and size, the two halves appear exactly alike.

And yet it is probable that their symmetry is never quite perfect; never mathematically true. I think that any one who will carefully compare the two or more similar component parts of himself, or of any animal or plant, or any bilateral organ of either, will find, within the general likeness, some unlikeness of size or form, of texture or color, or of all these together. Certainly it is so in the two lateral halves of our own bodies. Just as between parents and offsprings the likeness is general and constant, but never perfect, so is it between the halves of each individual. Invariably nature varies.

The phenomena of symmetrical disease, to which attention was drawn many years ago by Dr. William Budd and myself,[1] are now carefully studied by many; but those of the modifications of disease associated with the defects of symmetry need study too. I have constantly observed them during many years; but, I am ashamed to say, have made no exact records of them, and can, therefore, do little more than suggest some of the lines of study which may yield to others better results than I have gained. The study should include the defects of symmetry or similarity not only of size and shape, but of composition and of rates and methods of development, degeneration, and disease. These are too often dismissed from study when they are called "exceptional cases;" a mischievous phrase if it be deemed explanatory; for I suppose that an "exception" to one rule is only an example of another rule which is as yet unknown.

One of the parts in which defects of symmetry may be most easily seen is the face. Artists know well that the two halves of a face are very rarely alike. One with the largest experience told me that he had not seen such exact likeness in more than one face in a thousand; another that he had only seen it in "some stupid beauties." Certainly, the defect of symmetry is consistent with remarkable beauty. There is an extreme example of both in the lovely face of St. Mary, of Egypt, by Ribera (Spagnoletto), in the Dresden Gallery.[1] The left side of the face is much smaller than the right and more oblique in its inclination from the median line; the contrast may be observed in any of the numerous photographs of this portion of the picture which are published; but I think that both in these, and, generally, in photographs, the unlikeness of the two sides is less evident than in the faces themselves; perhaps, because of their showing imperfectly the difference of obliquity or of the angles at which the sides recede from the middle.

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[1] Med.-Chir. Trans., vol. xxv., 1842. I do not know who first observed any of them; but one, at least, was painted by that most keen observer of natural forms and expressions, William Hogarth. In his great picture of the Pool of Bethesda, at St. Bartholomew's Hospital, he has represented a woman with symmetrical psoriasis; and not only a bilateral symmetry of eruption but an antero-posterior symmetry of similar patches on both knees and elbows.

There is, I think, not much of pathological interest in the defects of symmetry of the head and face; unless in those examples in which there is great inequality between the sides of the skull and a rotation as if it were turned round on the vertical axis. But the defects should be noted; for they often, though not always, correspond with others in the trunk and limbs, and they may help to the understanding of these. They are best seen in the inequality of level and the difference of curves in the eyebrows; in the different degrees of openness of the eyelids, so that the eyes appear of unequal size, whether they be so or not; in the deflection of the antero-posterior plane of the nose; the unequal size and level of the nostrils; the inexactly horizontal line of the closed lips; the difference of the lines at which the two halves of the lower jaw rise from the chin; the difference of the planes of the two sides of the face; the inequality of total size in the two almost equal halves.[2]

All these deviations from general symmetry may commonly be seen; and as often in the most as in the least beautiful faces; and many of them become more marked in smiling, laughing, and other emotional movements.[3] But they have little interest in practice; unless it be in the case of the crooked nasal septum often making it hard to breathe through one nostril and sometimes making a face strange enough to make its owner wish for improvement.[4]

Inequalities of the neck often correspond with those of the face, and are well marked in the sterno-mastoid muscles and the parts near them.

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[1] It was no doubt painted from a living model; for the same face is in a picture by the same artist in the Madrid Gallery. But here it is given to another saint.

[2] Imperfect symmetry is usual and very marked in the teeth; but I have not observed them enough to describe them.

[3] The vaso-motor nerve influences by emotions may be similarly unsymmetrical. I saw a girl who blushed on only the left side of her face and neck, and her mother told me that she herself used to do so. The ruddy blotches at the borders of full blushes are seldom similar on the two sides.

[4] I have an impression that these deviations from symmetry are most marked in the most cultivated intellectual races; and more than an impression that, when we reckon among them the variations of colors, the deviations are much greater in domesticated than in wild animals.

The clavicles are often unequal and unlike; but they seldom attract attention, unless when the sternal end of one is larger and higher than that of the other. This is sometimes thought a deformity, and appears the more so when it is associated with more than usual mobility; but, so far as I know, it is unalterable and harmless.

It is difficult to tell in chests which are unlike in their two halves how much is due to unequal respiration in infancy and early life, or to disease, or rickets, or other really morbid conditions. But it is common to see imperfect symmetry even where there is no good reason to suspect any of these causes of it; and it is usually shown in one or both of two ways. In one, the one side, usually the right, is visibly larger than the other. (I say "visibly," because these differences are measurable by a practised eye better than by any instrument used by unpractised hands.) In the other, the chest appears as if slightly rotated on the spine. In both cases there is an appearance which alarms mothers too watchful of their daughters' backs; the scapula on the larger side, or on the side rotated backwards, is more prominent than the other, and curvature of the spine is feared. If the dorsal spinous processes be duly median, showing that the spine is not rotated, though the chest may be, the fear is unfounded.

The appearance of dissimilarity in the two sides of the chest is often increased, especially in girls and women, by greater dissimilarity between the breasts. They are, indeed, very rarely symmetrical in either size, level, shape, utility for nursing, or liability to disease. They are, as truly as any other organs, a pair, yet are they never just alike.

The inequalities of the limbs have been so fully studied that I need only refer to the papers by Dr. Garson, in the *Journal of Physiology*, and to those which he quotes. He shows clearly that the two corresponding limbs are very seldom of the same length; and he proves this by numerous accurate measurements, not only of the whole length, but of the several parts of each. His measurements were made on skeletons, and are more accurate than are any possible in the living body. Yet during life, and in practice, notable differences may be clearly seen and need be well observed.

Difference of volume is often as marked as is that of length, and it is sometimes sufficient to suggest suspicion of disease. But the suspicion may generally be dispelled on finding that there neither is now nor ever has been any other sign of disease in either limb, and that it is difficult to say which of the two unequal limbs is the better or the more appropriate to the other parts of the body.

The difference of length has usually more importance in practice; for it may be associated with appearances of deformity resembling those which are due to really morbid shortenings of a limb, such as may ensue in the defective growths during infantile paralysis, or disease of the hip or knee, or any similar affection. Many cases of suspected slight curvature of the spine are only examples of the adjustment due to inequality of the lower limbs, and in every such case they should be measured and compared; for the remedy may be supplied by boot soles of different thicknesses better than by spinal instruments. And I think that any one accustomed to estimate horizontal lines and lines drawn at right angles, will make the necessary measures best if, while the body is upright, or as nearly so as it can be, he will observe, while behind the patient, whether his hands resting on the upper borders of the iliac crests are in an exactly horizontal plane. If they are, a well-formed spine will stand at a right angle on that plane.

These examples may suffice to indicate that many much more useful facts than I have told may be collected in accurate records of the inequality of size and shape between the apparently similar pair-organs of the body. And many more may be found in observations of the defective symmetry in composition in the two apparently similar parts on the two sides.

They may commonly be seen in the symmetrical diseases of the skin. The patches of diseases are often not exactly alike on the two sides. Even in the parasitic affection of the epidermis in pityriasis versicolor, the general symmetry of which may be taken as clear evidence of a dependence of symmetry on identity of composition, the spots are not always alike in size and shape. Similar diversities may be seen in psoriasis; and in this there are often noticeable differences of time in the eruptions, that of one side preceding by a day or two that on the other. It is easy to speak of such things as due to chance; it might be right to do so if chance were a form of energy; it will be better to think of them as things of which useful observation may learn the meaning. I cannot explain them; I can tell scarcely more than that these differences in the methods of organic life do not always correspond with differences of shape and size. I know a case in which sweating, whether in health or in disease, is profusely greater on the left side than on the right; the patient is inclined to be left-handed, but the two sides are rather less than usually unlike in size and shape.